Meeting Summary

East Waterway Draft Final FS Comment Resolution Meetings #1 through #4
EPA Team, EWG

East Waterway Feasibility Study

Meeting #1: 6/12/2017, 10 am – 12 pm, EPA
Meeting #2: 6/15/2017, 1 – 3 pm, EPA
Meeting #3: 7/6/2017, 10 am – 12 pm, EPA
Meeting #4: 7/11/2017, 1 pm – 3 pm, EPA

Meeting agenda is in regular text, meeting notes and resolutions in italics. "EPA" refers to the EPA team, which includes USACE. Representatives from the Department of Ecology also attended Meeting #1 by phone.

Meeting #1

1. SMS compliance (comment letter bullets #1, 2, 9, and comments #1, 2, 175, 355)
    a. General comment on RAO and SMS compliance (Comment #175)
    EPA: *the text implies that the SMS ARAR is of primary importance for compliance; CERCLA requirements need to be treated equally.*
    EWG: *Ecology methods should be used when demonstrating SMS ARAR compliance.*
    Path forward: *Discussion of CERCLA is not appropriate in Section 4.3.1 (Role of ARARs) but EWG will revise text in appropriate places in Section 4 to include CERCLA references so that CERCLA and SMS are treated more equally.*
    b. Removal of methods for SMS compliance (Comments #1 and #2)
    EWG:
        - *The FS lists four potential ways to meet the CERCLA threshold requirement to comply with ARARs, specifically, the natural-background-based PRGs:*
            - *Remedy meets the natural background PRG*
            - *Regional background is developed, the PRG is adjusted, and the remedy meets that PRG*
            - *EPA provides a TI waiver for the part of the SMS that is not achieved*
            - *SRZ*

    EPA:
        - *In general comment #2, EPA meant regional not natural background*
        - *The administrative aspects of SRZs are not an ARAR.*

- *The substantive and more stringent requirements of an SRZ are an ARAR that must be applied during a CERCLA cleanup.*

Ecology:

- *The entire SMS rule is the ARAR (including SRZ)*
- *SRZ is one approach to compliance with SMS and therefore can support a final remedy*
- *To qualify for an SRZ, modeling needs to demonstrate the time to achieve the cleanup levels (i.e., restoration timeframe that is longer than 10 years) and sources need to be controlled.*

Path forward: *EWG will revise text to state that the substantive requirements of an SRZ are an ARAR. However, an SRZ will not be included as a stand-alone potential compliance mechanism as currently written.*

c. Background values (Comment #355)

EPA:

- *The SMS rule is the ARAR and SCUM II is guidance that is "to be considered"*
- *CERCLA guidance allows use of natural background or anthropogenic background to establish PRGs. Therefore, it is appropriate to use CERCLA methods for calculating background, even if the methods result in more stringent values than methods prescribed in the SMS.*

Ecology:

- *Ecology's guidance specifies methods for calculating natural background, but natural background values that are more stringent than their requirements would comply with the SMS.*

EWG:

- *The SMS ARAR includes both the SMS rule and how the rule is applied by Ecology (i.e., SCUM II guidance).*
- *Unlike the main body of the FS, Appendix A is only about compliance with the SMS ARAR and does not consider how to address CERCLA requirements.*
- *EPA's approach to calculating background for the EW FS results in PRGs that are more stringent than both SMS (when compared to Ecology's methods) and CERCLA (when anthropogenic background would be used) when these laws are considered independently. PRGs would default to the more stringent of the requirements, in this case, SMS, and therefore need to be based on SMS procedures.*

Path forward: *in Appendix A, EWG will footnote that CERCLA uses a different method than what is prescribed by Ecology for calculating background and identify that CERCLA also plays a role in meeting threshold criteria.*

2. Harbor deepening (comment letter bullet #4, comments #10 and #255)

EWG:

- *The harbor deepening is subject to the USACE completing the Feasibility Study and selecting a preferred alternative, the decision of the federal government to fund the project, and for the USACE and Port to proceed with it, therefore this is not a reasonably anticipated future use.*
- *The EW cleanup alternatives need to address CERCLA requirements to clean up contamination, regardless of the deepening alternatives. Any of the deepening alternatives would be compatible with the cleanup. Further analysis regarding the performance of the alternatives with regard to a deepening scenario is not necessary because:*
  - *The deepening would have anti-degradation performance requirements under any scenario, which would be subject to CERCLA review regarding any impacts to the previously completed cleanup.*
  - *The deepening project is considering several alternatives and a preferred alternative that describes selected dredging depths or areas has not been finalized.*
  - *Any future dredging for the deepening project would occur after the CERCLA remedy and would be subject to CERCLA review.*

EPA:

- *EPA is concerned that the deepening could compromise the cleanup in some way and wants to understand the impact of the deepening on sediment left behind that may be above RALs.*
- *The deepening is a reasonably anticipated future use and therefore the alternatives need to more closely consider the deepening.*

Path forward:

- *EPA forwarded future use guidance.*
- *EWG will include additional details on the deepening study in appropriate locations in the FS to: 1) document that the authorized navigation depth may change in the future; 2) explain in general terms whether and to what extent the remediation alternatives are or are not compatible with a potential future channel deepening project. Draft text will be shared with EPA prior to FS submittal.*

3. Other significant comments with clarification needed.
   a. Green river data (comment #5)

   Path forward: *EWG will not rerun any of the models, but will include a summary of the new suspended solids data collected by USGS and King County and explain how this data could potentially affect modeling outcomes.*

b. Net sedimentation rate (comment letter bullet #13, comments #199, 200)
Path forward: *EWG will not rerun any of the models, but will revise for clarity Section 5.1.2 that develops the average net sedimentation rate for areas of the EW. Text will be clarified that Cs cores were the primary data source for net sedimentation rates.*

c. Integrating construction timeframe into the modeling timeframe (comment #81)
Path forward: *EWG will further evaluate whether a different metric can be used for RAO 3 for overall protection of human health and the environment (rather than years from the start of construction) and will present EPA with any potential options.*

d. Seeps and sheetflow, etc. (comment #217)
Path forward: *EWG will discuss with Rick Thomas at Ecology. Comment likely already addressed in the SRI/FS. EWG will add sentence that seeps and groundwater were not included because they were anticipated to be a minor source based on data available.*

e. Coast Guard data (comments #227, 275) *Deferred to Meeting #2.*

f. Phasing with LDW (comment #3) *Deferred to Meeting #2.*

4. Comments that would represent a change in approach
   a. Length of the construction window (comment letter bullet #5, comment #7) *Deferred to Meeting #2.*
   b. Underpier dredging action level (comment letter bullet #14, comment #259) (change in approach discussed in WPAMs #6 (2/9/2016) and #7 (3/9/2016)) *Deferred to Meeting #2.*
   c. Analysis of vulnerable inventory (comment letter bullet #20, comment #345) (this comment represents a change in approach from what was previously discussed in comment resolution meeting #7 (3/9/2016), presented in WPAM #9 (8/9/2016)) *Deferred to Meeting #2.*
   d. Clamming area depth of compliance (comment #171)
Path forward: *the clamming area depth of compliance will not be changed. Clarification will be made in the response to comments that the clamming area was established in the human health risk assessment and SRI.*
   e. Tissue PRGs (comment #193)
Path forward: *Per the approach in the LDW, tissue target levels will be developed and included in the FS based on available data. Like the LDW FS and ROD, tissue PRGs will not be developed or included.*

Meeting #2

Comments Remaining from EPA Meeting #1

1. Other significant comments with clarification needed.
   a. Coast Guard data (comments #227, 275)

EPA: *Coast Guard data had some very high concentrations and therefore the data needs to be included in FS.*

EWG: *The Coast Guard data will change the remediation area, alternatives, or modeling only very slightly and would require a lot of time and effort to incorporate into the alternatives and analyses.*

Path forward: *EPA will send EWG the Coast Guard data and EWG will revise Section 2 text, tables and figures that describe contaminant distribution. However, the alternatives and the modeling will not be revised; footnotes will be included to reference the data that missed the cut-off date for inclusion in FS alternatives. Additional discussion of Coast Guard data also occurred in Meeting #4.*

b. Phasing with LDW (comment #3)

Path forward: *EWG will add language that the current (pre-cleanup) average LDW bed concentration component was used as model input, but the model-predicted EW SWACs are not sensitive to that parameter.*

2. Comments that would represent a change in approach

a. Length of the construction window (comment letter bullet #5, comment #7)

EPA: *EPA spoke to agency staff who indicated that the fish window for the East Waterway is July 16 – February 15 and this window needs to be used for this analysis. Appropriate Tribal Coordination on their fishing window will occur prior to design and cleanup.*

EWG: *US Fish and Wildlife has historically applied the LDW fish window (October 1 to February 15) to the EW and West Waterway. In addition, the tribes have historically proposed a shorter construction window to reduce conflicts with their fishery. The FS construction window is based on historical agency allowed construction windows for the EW.*

Path forward: *See meeting #4 summary below.*

b. Underpier dredging action level (comment letter bullet #14, comment #259)

EWG: *Underpier action levels need to be based on risk reduction and achieving target concentrations.*

Path forward: *EPA will forward the Coast Guard data. EWG will present an analysis on whether additional underpier action levels would be warranted to meet the RAOs.*

c. Analysis of vulnerable inventory (comment letter bullet #20, comment #345)

Path forward: *EWG will quantify the volume of vulnerable inventory for the no action alternative and develop text for inclusion in Sections 9 and 10 to present to EPA prior to submitting the FS.*

Additional Comments for Discussion

3. Risk assessment

a. PCBs risk assessment (Comment #143)
Path forward: *EWG will bring additional language from the SRI into the FS per the comment.*

b. Sensitivity on background (Comment #188)
Path forward: *EWG will review for accuracy regarding Ecology's procedures for calculating background.*

c. 95% UCL (Comments #161 and #223)
Path forward: *EWG will include a reference to the discussion of compliance metrics in the FS in this section.*

d. RAO 1 Language (Comment #166)
Path forward: *In the paragraphs below the bolded RAO text, EWG will include a discussion that some values default to NB and therefore Fish Consumption ICs will likely be needed to be protective.*

4. Alternatives development/ engineering assumptions
   a. Capping and habitat loss mitigation (Comment #12)
   Path forward: *EWG will add language that the cap surface needs to consider habitat function in design.*

   b. Neatline dredge depth uncertainty (Comment #268)
   Path forward: *Appendix F contains a detailed discussion of dredge depths. EPA and EWG agreed during Meeting #2 that EWG would discuss with Ecology to clarify the comment. However, in Meeting #4, EPA and EWG agreed to work out the Ecology comments with EPA, if possible.*

   c. TOC in ENR and RMC (Draft FS comments #23, 27, 256, and 282)
   Path forward: *EWG will add materials from the WPAM meetings (empirical and modeled TOC recovery) to Appendix B-5 and include references in the main body of the document.*

Meeting #3

5. Alternatives Evaluation
   a. Time to achieve for arsenic (general comment #9).
   Path forward: *EWG will describe in the text that the concentrations for arsenic achieve the PRG at time 0 but are predicted to rise above the PRG in the long term based on incoming concentrations.*

   b. Justification for RALs (Cmt. #232).
   Path forward: *EWG will describe in the appropriate location in the document how the concentrations of incoming sediment influenced the development of the RALs, including reference to other sections that describe long-term model predicted concentrations.*

c. Additional figure for Section 6 (Cmt. #235)

Path forward: *EWG will address the comment in the response to comments by clarifying the approach used in the FS to establish the remediation area and referring the commenter to Appendix H for subsurface contamination data. No changes to the FS necessary.*

d. Percent reduction in risk (Cmts. #306, #311, #319)

Path forward: *EWG will present the percent reduction in PCB SWACs and risks due to PCBs in other parts of Section 9 rather than in Section 9.3.1 and 9.3.3.1.*

e. Calculating time to achieve RAOs during construction (Cmt. #320)

Path forward: *EWG will add a footnote to Table 9-8 identifying situations where the time to achieve the RAO is equal to the construction timeframe (i.e., year 0 post-construction).*

f. Star-ranking guidance (Cmt. #332)

General path forward: *EWG will develop an explanation for each criterion that explains the basis of how each star ranking is set. EPA will rereview the star rankings in the next draft of the FS.*

Comment part a) path forward: *EWG will develop an explanation of the basis of how each star ranking is set. The number of stars will continue to range from 1 to 5 stars for long-term effectiveness and permanence.*

Comment part b) path forward: *EWG will create a new category for in situ treatment, "moderately permanent," and keep the other designations the same.*

Comment part c) path forward: *EWG will revise the text to explain that the short term metrics are considered together (i.e., short term impacts are not ranked disproportionately despite that the additional metrics presented in the table). EWG will develop an explanation of the basis of how each star ranking is set.*

Comment part d) path forward: *EWG will develop an explanation of the basis of how each star ranking is set and add more rationale describing how each factor that contributes to short term effectiveness was considered with respect to each alternative's star ranking.*

Comment part e) path forward: *EWG will develop an explanation of the significance of each star ranking and provide additional clarifying language regarding the dredge volume ranges that contribute to each star ranking.*

Comment part f):

EPA *had discussions with the EPA dive team leader (Sean Sheldrake) that indicated that diver-assisted hydraulic dredging is moderately implementable.*

***EWG** believes that diver-assisted hydraulic dredging has low implementability based on project experience and East Waterway conditions (i.e., deep water, steep riprap slopes, debris, piling density, low visibility, vessel frequency, and limited upland staging requiring water treatment system on barge).*

***Path forward:** EWG will develop an explanation of the basis of how each star ranking is set. EPA will discuss implementability of diver-assisted hydraulic dredging with their internal team.*

***Comment part g) path forward:** EWG will develop an explanation of the basis of how each star ranking is set.*

6. Discuss Approach to Ecology Comments.
   Deferred to Meeting #4.

Comments from Previous Discussions

1. Length of the construction window (comment letter bullet #5, comment #7). EPA to follow up and report back.
   Deferred to Meeting #4.
2. RAO 3 metric using % that achieve SMS rather than years to achieve metric (comment #81). EWG will present an approach in a future meeting.
   Deferred to Meeting #4.
3. Underpier dredging action level (comment letter bullet #14, comment #259). EWG will present general approach in a future meeting.
   Deferred to Meeting #4.

Meeting #4

Comments to Revisit from Previous Discussions

1. Length of the construction window (comment letter bullet #5, comment #7)
   ***Path forward:** EWG will clarify in the document that the standard construction window for the EW is longer than that used in the FS and the actual approved construction window could be longer than that assumed in the FS pending design and permitting. A qualitative description of impacts to the construction duration for the alternatives will be added. EWG will provide draft language to EPA for review. EPA will contact NMFS and USFWS to discuss this proposed approach and report back to EWG.*
2. RAO 3 metric using % that achieve SMS rather than years to achieve metric (comment #81)
   ***Path forward:** EPA approved the proposed modifications to ES Table 4 passed out at the meeting, which uses percent sample locations that achieve the RAO 3 PRG at Year 40. EWG will make these changes.*

3. Underpier dredging action level (comment letter bullet #14, comment #259)

   ***EWG** presented the new Coast Guard sediment data. In addition, EWG presented an analysis that indicates that underpier hydraulic dredging would not be needed to meet PRGs for cPAHs, dioxins/furans, and TBT. Therefore, an underpier dredging action level is not needed for these chemicals. EWG indicated that a change to the underpier dredging action levels would affect the submittal date of the Final FS because it would require additional modeling for the C+ alternatives.*

   ***EPA** agreed with the information presented during the meeting and in a follow up conference call with Erika Hoffman on July 13.*

   ***Path forward:** No additional underpier hydraulic dredging action levels need to be developed.*

Ecology Comments

1. Specific comments for discussion
   a. Cmt. 119. Clamming areas

      ***Path forward:** Comment will be addressed in the response to comments only. No change to text needed.*

   b. Cmt. 136. Groundwater monitoring

      ***Path forward:** Additional groundwater monitoring is not required as part of this SRI/FS but will be a remedial design consideration. Where appropriate, additional text will be added to summarize additional details from the SRI regarding the absence of groundwater concentrations that could recontaminate sediment.*

   c. Cmt. 217. Loading

      ***Path forward:** "Areas of concern for recontamination" will be modified to "areas of potential recontamination" (or something similar) for clarity. The rest of the comment will be addressed in the response to comments.*

   d. Cmt. 362. Deviation from SMS

      ***Path forward:** EWG will revise text as necessary to indicate that the CSL is the upper limit for upward adjustment of the cleanup level and that cleanup level development does not deviate from SMS.*

2. Executive summary comments
   a. Ecology produced numerous comments to the executive summary that may be better addressed in the main body of the document.

      ***Path forward:** EWG will provide EPA a written response to Executive Summary comments which indicates the approach to addressing each comment (i.e., whether a change will be made in the text, or if clarification will be provided in the RTC only). EPA will review for concurrence to determine if any comments require further discussion.*

3. Path forward

a. *The groups have the following action items for clarification items:*
    i. **EWG** provide draft response to Executive Summary comments. **EPA** review for concurrence to determine if any comments require further discussion.
    ii. **EWG** provide language revisions for the construction window to EPA. **EPA** discuss the fish window with NMFS and USFWS to confirm tentative plan.
    iii. **EPA** discuss the implementability of diver-assisted hydraulic dredging internally.
    iv. **EPA** confirmed the plan to not develop any new underpier dredging action levels is OK in an email on 7/17/2017.
    v. After EPA reports back, **EWG** provide a proposed due date for the FS in a schedule extension letter.